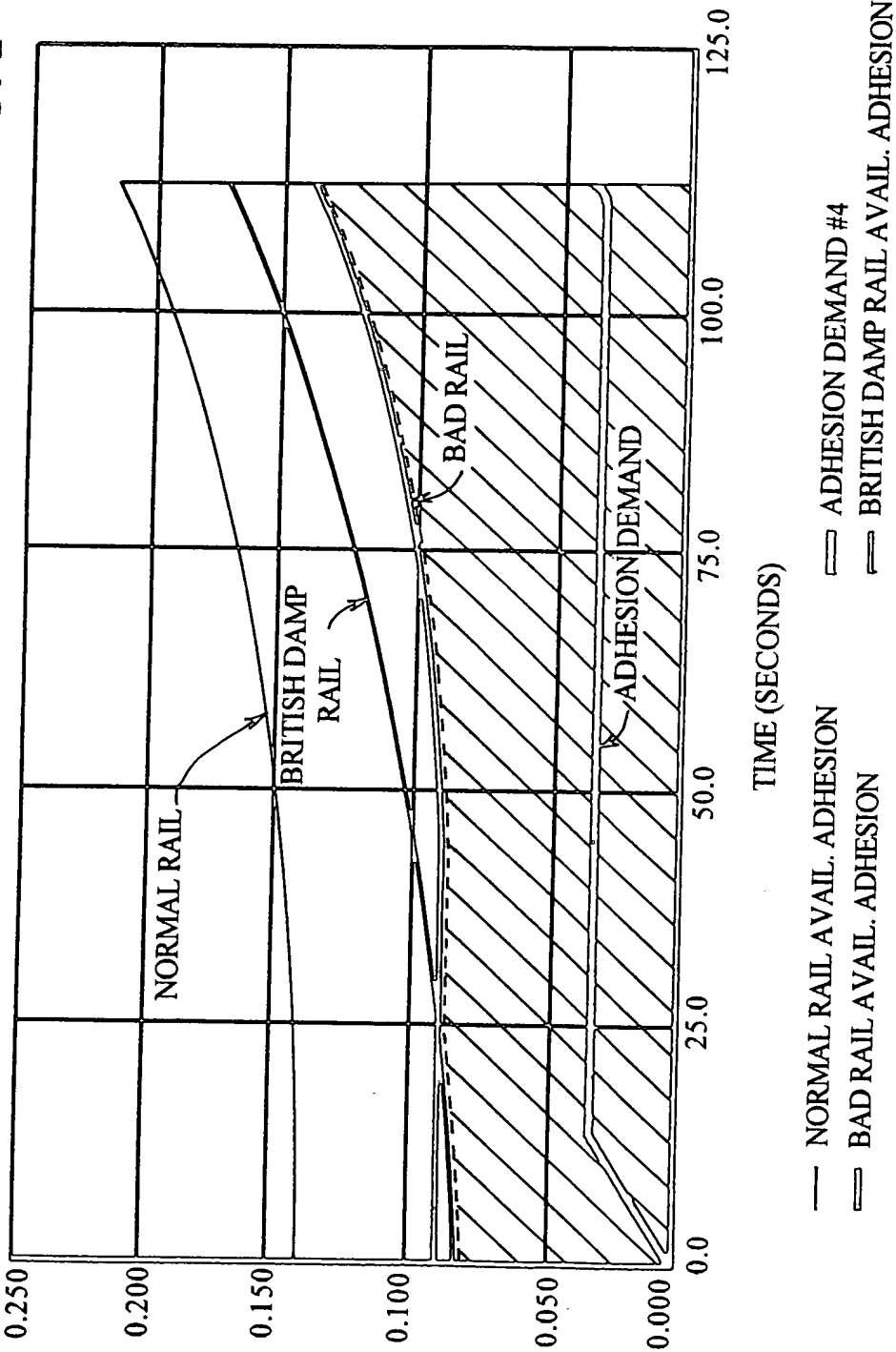
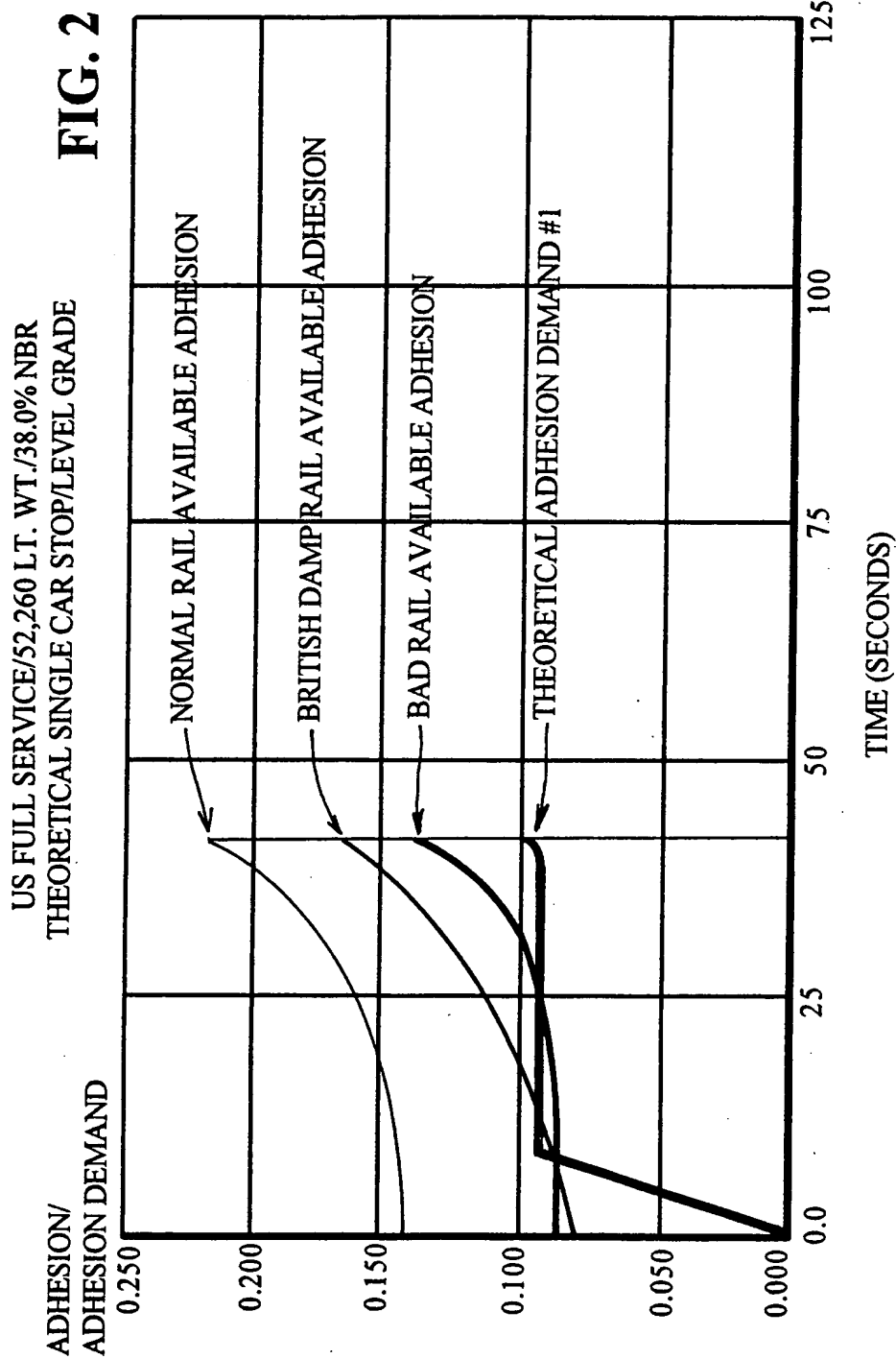
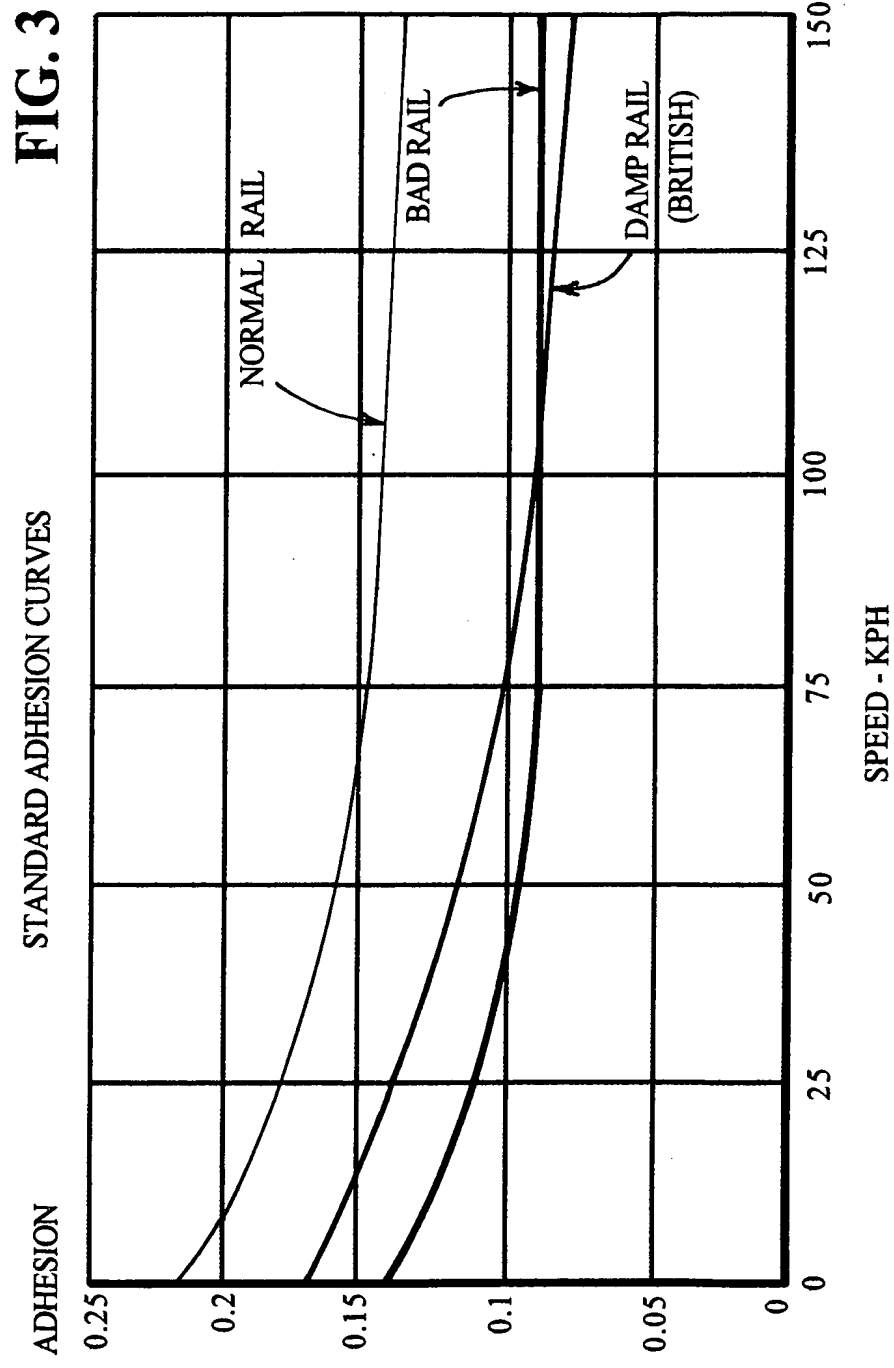


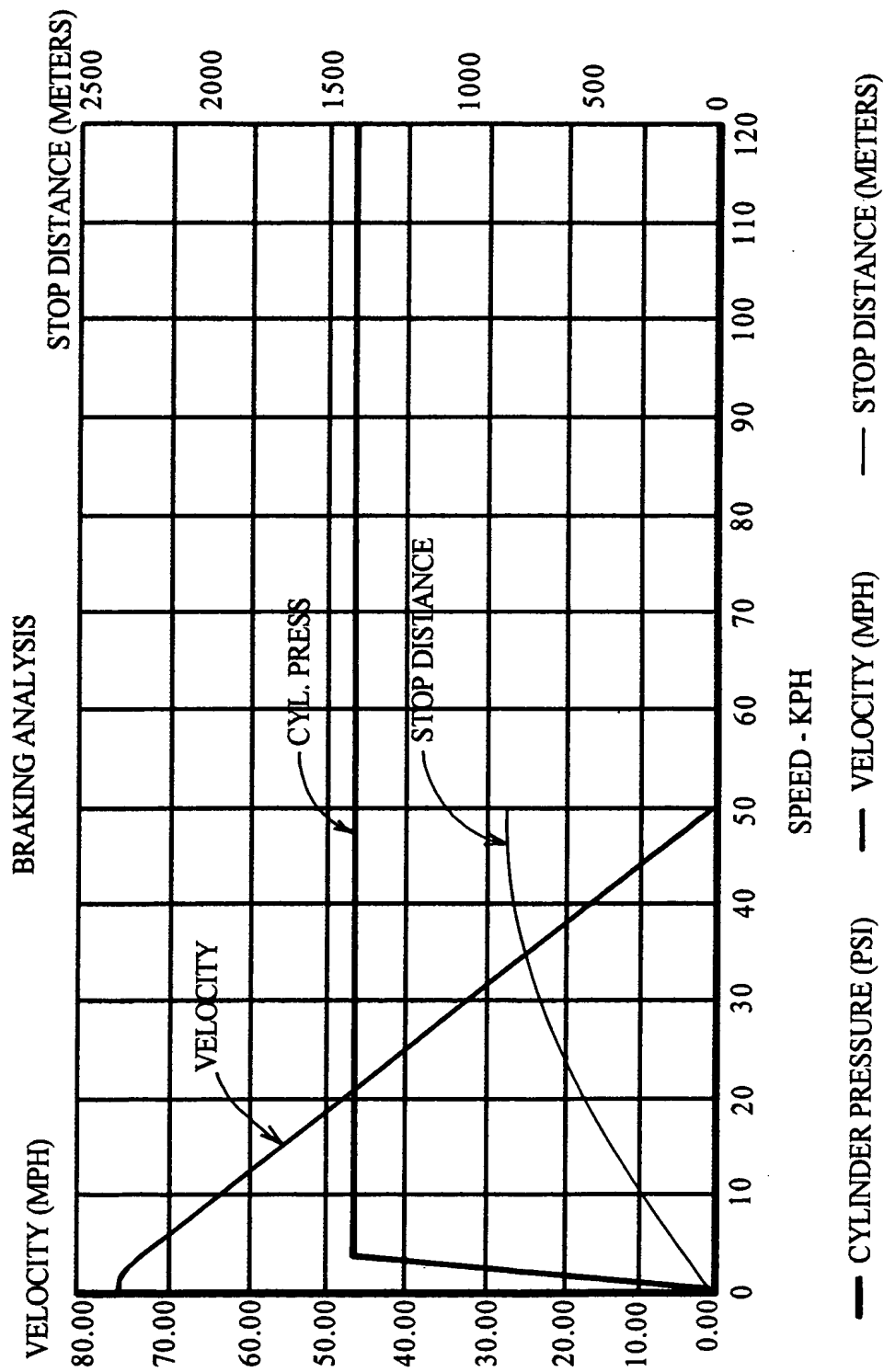
US FULL SERVICE/286K GRL/13.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE

FIG. 1



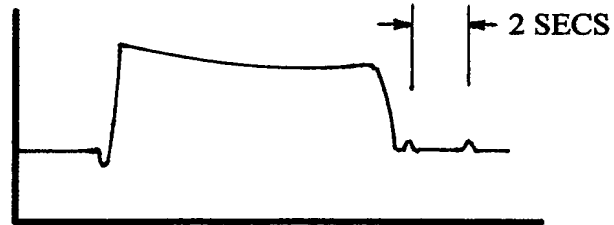






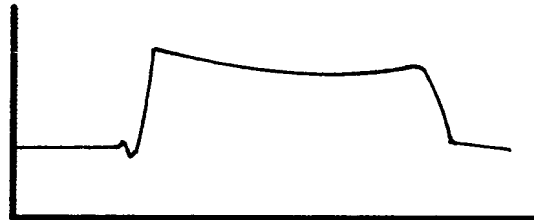
**FIG. 4**

TEST 14  
58.8 MILE/HR.



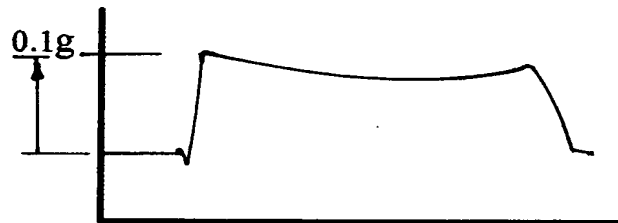
**FIG. 5A**

TEST 12  
65.5 MILE/HR.



**FIG. 5B**

TEST 10  
72.9 MILE/HR.



CHANGE IN DECELERATION  
DUE TO BREAK SHOE FADE

DECELERATION →

**FIG. 5C**

CHART #1- US FULL SERV./52,260 LT. WT./38.0% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION/  
ADHESION DEMAND

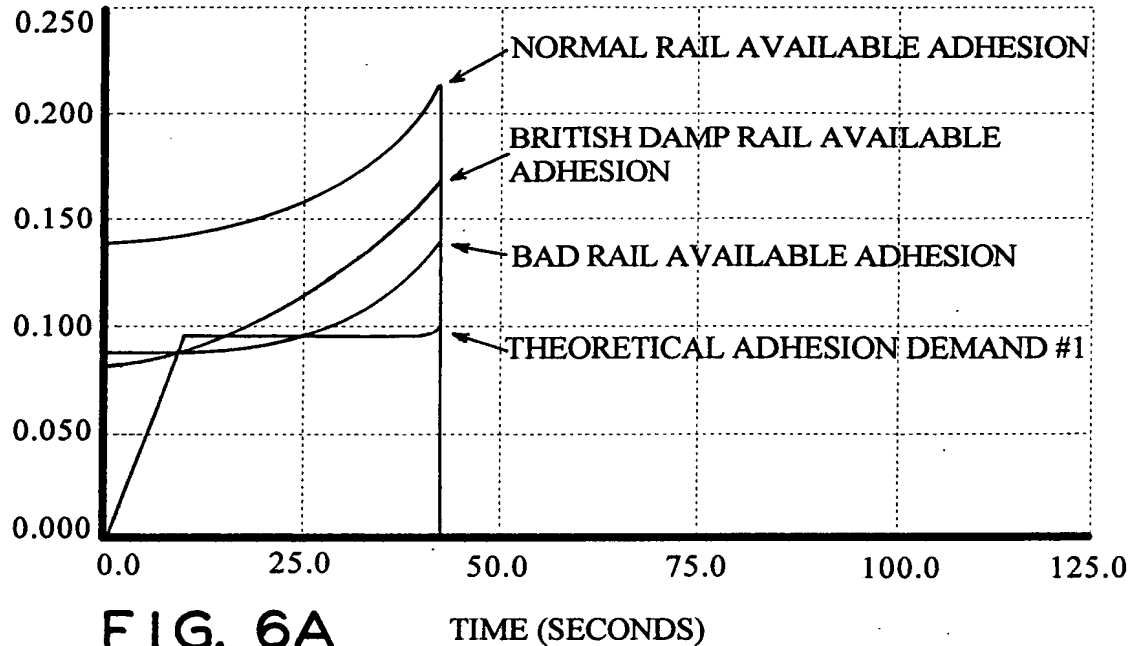
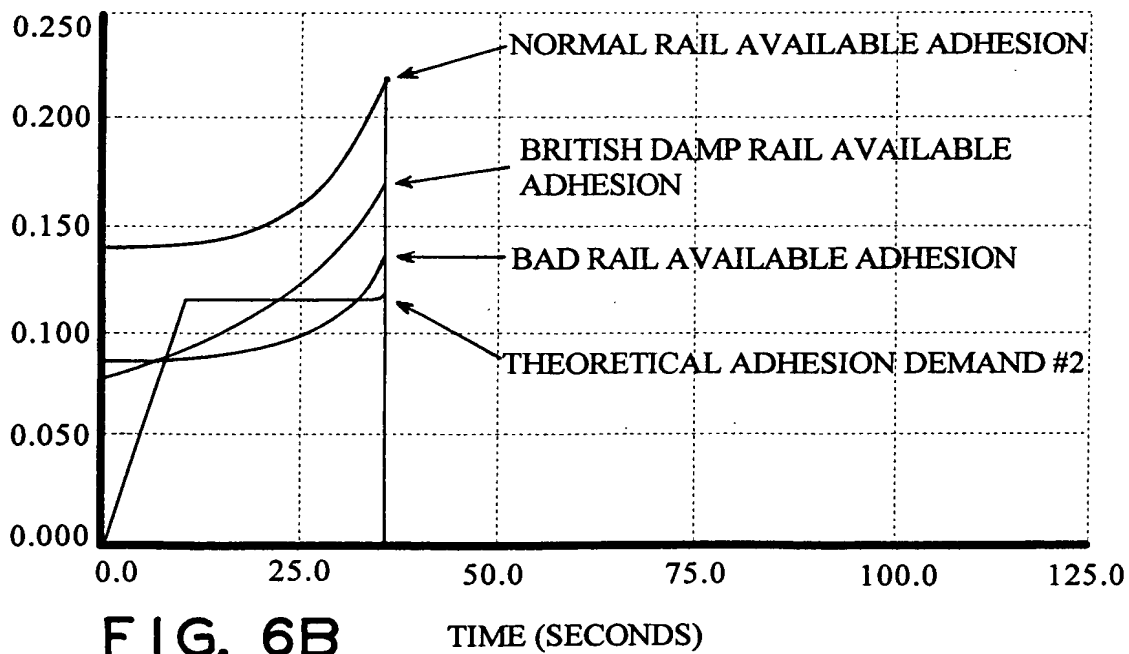
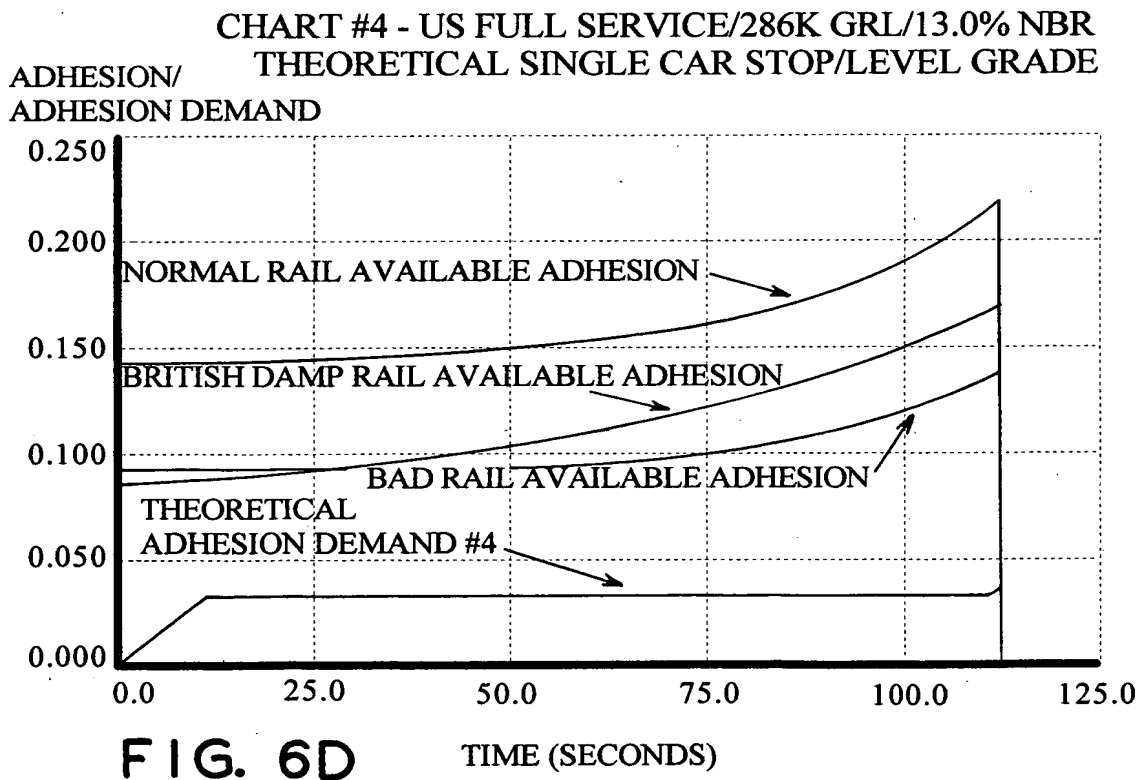
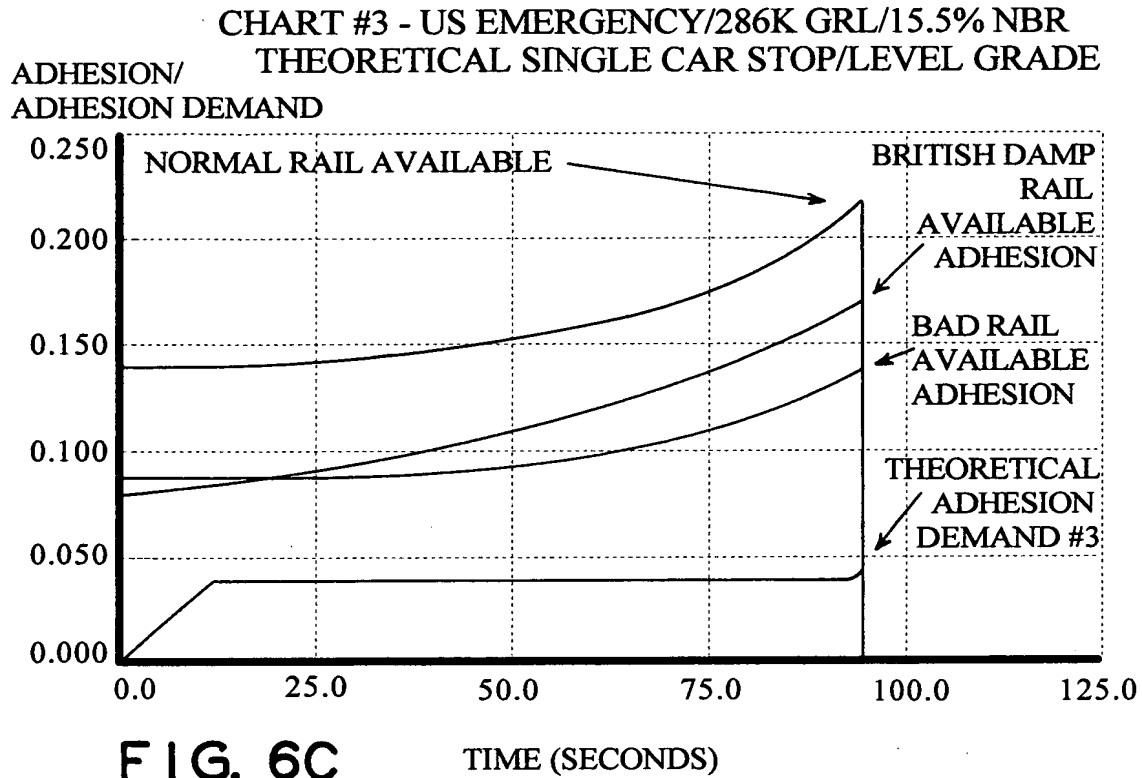


CHART #2 - US EMERGENCY/52,260 LT. WT./45.6% NBR  
THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
ADHESION/  
ADHESION DEMAND





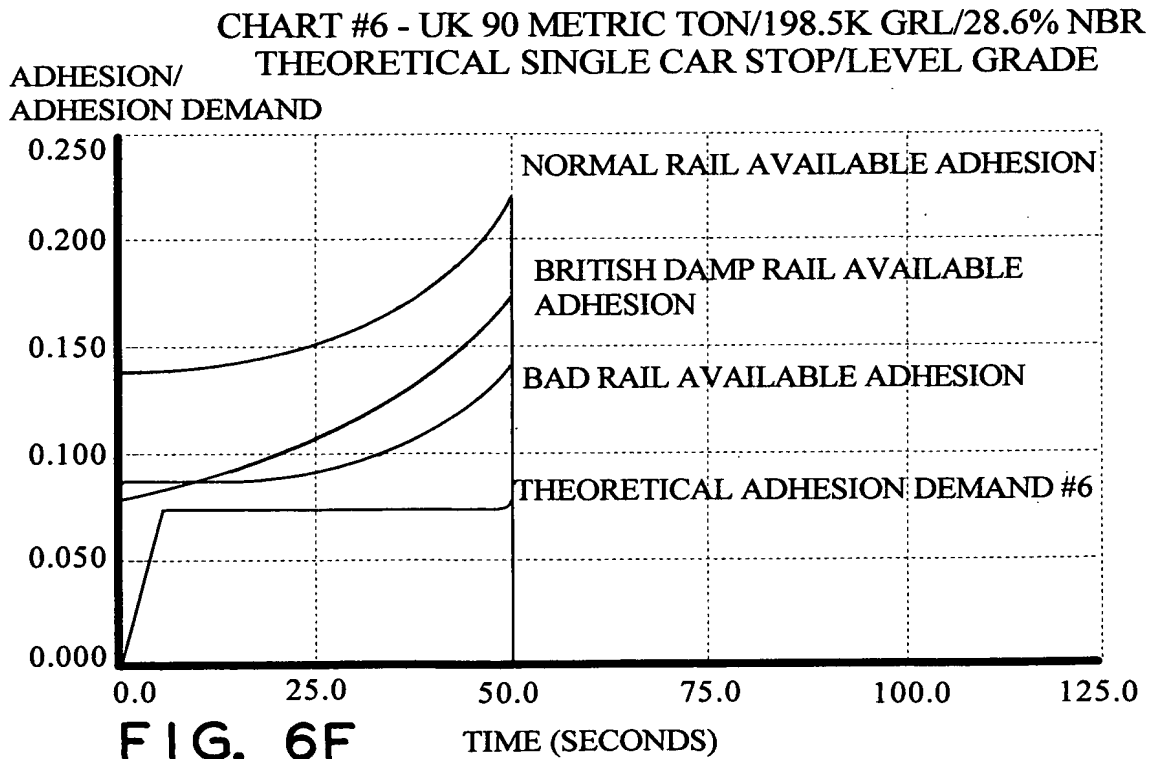
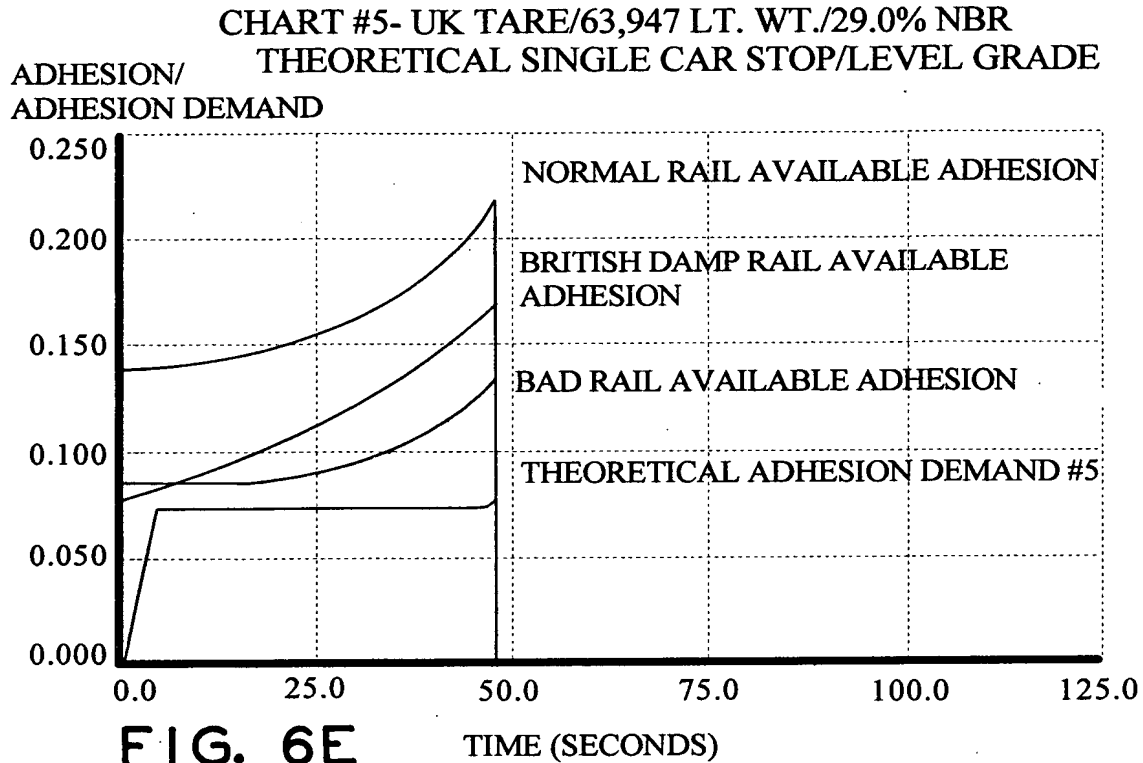




CHART #7- UK 102 METRIC TON/225K GRL 28.6% NBR  
 ADHESION/ THEORETICAL SINGLE CAR STOP/LEVEL GRADE  
 ADHESION DEMAND

